

# Press release



## IMMEDIATE RELEASE

16 April 2019

### **PSE launches PATH initiative for chemical engineering education**

#### **Free teaching materials help integrate process modelling and digital design throughout curriculum**

LONDON, 16 April 2019 – Process Systems Enterprise (PSE), the advanced process modelling company, today launched PATH – the Process systems engineering Academic Teaching Highway – an initiative aimed at ensuring that chemical engineering graduates enter industry with 21<sup>st</sup> century skills.

PATH provides high-quality, modular teaching materials to help course directors and lecturers integrate process modelling and aspects of digital design into all facets of chemical engineering education. PATH has evolved with input from industrial employers of chemical engineers such as Procter & Gamble, ExxonMobil, AstraZeneca and DSM, and the academic community.

A key aim is to align the teaching of these technologies within universities with the rapidly-evolving needs of industrial employers, by providing ready-made materials for use in new or existing modules. Eva Sorensen, Professor of Chemical Engineering at UCL, says: “The current wave of digitalisation initiatives in industry is putting pressure on chemical engineering departments to revisit their taught courses to keep up, as we need to ensure that our graduate engineers have the skill set required for the modern world.”

This sentiment is supported by employers of chemical engineers in industry. Ben Weinstein of Procter & Gamble states: “Modelling is a key enabler of innovation. It allows us to develop our first prototypes virtually, and this allows us to explore a much broader design space than would otherwise be possible”.

PATH provides slides, hands-on exercises and homework assignments that are designed for implementation within any chemical engineering module. The material is offered under a Creative Commons licence, which means that it can be modified and extended as long as the changed versions are offered on the same terms. The material is intended to promote modelling and simulation education, and is not linked to any specific software product.

The initial material has been piloted by several universities, and experience to date has been overwhelmingly positive. “When incorporated throughout the curriculum, process modelling helps students gain a better understanding of both textbook theories and the real world,” says Pieter Schmal, PATH Programme Director. “It not only makes them better engineers, but also provides them with a skill in high demand by future employers.”

#### **For Editors**

Contact: Kate Burness, +44-20-8563-0888, [k.burness@psenterprise.com](mailto:k.burness@psenterprise.com)

Website: [psepath.com](http://psepath.com)

Watch the video: <https://psepath.com/professors#video>

PATH workshop, 30 April 2019, London: <https://www.psenterprise.com/events/uk/2019/path/path-workshop-uc>

About: [www.psenterprise.com/news/pr190416](http://www.psenterprise.com/news/pr190416)

## **About Process Systems Enterprise Ltd (PSE)**

PSE ([www.psenderprise.com](http://www.psenderprise.com)) is the world's foremost provider of Advanced Process Modelling software, services and solutions to the process industries. Companies apply advanced process models within digital design and digital operations initiatives to explore the process decision space rapidly and effectively, in order to reduce uncertainty and make better, faster and safer design and operating decisions.

PSE provides gPROMS advanced process modelling products built on the company's gPROMS® equation-oriented mathematical modelling platform. gPROMS lets users capture fundamental research in model form easily and efficiently using powerful custom modelling capabilities. To improve predictive capability, model parameters can be fitted to experimental data using advanced parameter estimation and model validation facilities. Validated models can then be used for steady-state and dynamic simulation, or to systematically explore the decision space with global system analysis to analyse risk and uncertainty. Industry-leading MINLP optimisation capabilities make it possible to optimise complex chemical engineering systems with multiple decision variables. gPROMS models can integrate with CFD simulations, CAPE-OPEN simulators and other modelling technologies.

Use of PSE's technology and services within digital design and operations frameworks results in faster innovation, improved process and product designs, enhanced operations, reduced risk, more effective R&D and experimental campaigns, and better capture and transfer of corporate knowledge across the organisation.

Originally a spin-out of Imperial College London, PSE is committed to defining, developing and driving the adoption of next-generation process modelling software and workflows. The company supports chemical engineering academic research and education through low-cost academic licences, and sponsors the annual €5000 Model-Based Innovation Prizes, numerous other awards, academic conferences such as CAPE, and the PATH materials development for chemical engineering teaching.

## **About PATH**

PATH ([www.psepath.com](http://www.psepath.com)) is an initiative by Process Systems Enterprise (PSE), supported by several large industrial employers of chemical engineers, and Chemical Engineering departments at leading universities. It is aimed at improving the modelling skills of chemical engineering students in a way that addresses the needs of both industry and academia.

The PATH programme provides free-of-charge high-quality, modular teaching materials developed under the guidance of an academic advisory board and tested in leading chemical engineering departments. PATH helps educators to integrate modelling into all facets of chemical engineering education to prepare students for 21st century industry needs, in particular the drive towards digital design and digital operations.

PATH slides, hands-on exercises and home assignments are designed for use in all chemical engineering modules, not just mathematical modelling courses. Students learn to develop and implement models while also understanding the theory and experimentation used to produce them.

PATH materials are provided under a 'creative commons' licence, which allows them to grow with the direct input of the user community to meet the evolving requirements of chemical engineering teaching and industry practice.